

**METHODS OF FORMING FERROELECTRIC CAPACITORS USING SEPARATE
POLISHING PROCESSES AND FERROELECTRIC CAPACITORS SO FORMED**

ABSTRACT

5 Ferroelectric memory devices can be formed by polishing an insulating layer
on a plurality of ferroelectric capacitors with a silica slurry to reduce a height of the
insulating layer above a surface of the plurality of ferroelectric capacitors so that the
surface remains covered by a portion of the insulating layer. The insulating layer can
be further polished with a ceria slurry to further reduce the height of the insulating
10 layer and to expose a polishing stop layer on the surface of the plurality of
ferroelectric capacitors. Related devices are also disclosed.